Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Davis[9] has also devised a method for increasing the rapidity and total percentage of germination in *Oenothera* seeds. He places the seeds on pads of filter paper in Petri dishes, adding water until a surplus remains about the edge of the pad. The dishes, covers, papers, and water are all sterilized before the seeds are inserted. The dishes, covered and kept in shaded portions of the greenhouse, showed much more prompt and complete germinations than samples of the same seeds sown in soil. The author notes that after periods of high temperature there followed a burst of germinations, and believes that the best results will be secured by subjecting the dishes of seeds to high temperatures in an incubator. Davis points out as one of the distinct advantages of his method that all seedlike structures which fail to germinate remain available for subsequent study.—Geo. H. Shull.

Color inheritance in Oxalis.—Several wild forms of *Oxalis* growing in nature at Tokyo, Japan, are found by Nohara[10] to constitute true breeding biotypes, and one wild form indicated its hybrid nature by producing 3 types of offspring in approximately a 1:2:1 ratio. The 4 homozygous biotypes were subjected to genetical analysis by controlled breeding. Reciprocal and double reciprocal combinations yielded only the same results as the single crosses, showing no differential effect of maternal and paternal germ cells. The 4 forms differed from each other in the presence and absence of a purple bar across the base of the petals forming an "eye," and in the occurrence of several degrees of purple coloration in the leaves. The leaf and flower pigmentation are associated, either by linkage or by the production of purple color in the leaves and the purple eye spot in the flowers by the same gene. As one of the true breeding forms has purple leaves and no eye spot, the relation of these characteristics seems to be more logically referable to linkage. The 4 forms differ from one another severally by single factors, thus presenting an instance of Baur's "triangle," or multiple allelomorphism, athough the significance of this fact does not seem to have been appreciated by the author. In all crosses the heterozygotes are intermediate between the parents, the F_2 showing ratios approximating 1:2:1, and the F_3 behaviors are typical of Mendelian monohybrids. Three of Nohara's forms are recognized by him as the taxonomic forms *O. corniculata* L., *O. stricta* L., and *O. corniculata tropaeoloides* (Schlachter) Makino, and the importance of such genetical studies in the solution of taxonomic problems is made clear.—Geo. H. Shull.

Relation of leaves to climate.—Bailey and Sinnott,[11] in continuing their study of the phylogeny of angiosperms, have begun an investigation of the distribution of various types of leaves in the principal phytogeographic regions, having in view "the question of the conservatism of foliar characters and their modification by environmental factors." The present paper summarizes the results from data obtained in reference to the distribution of entire and non-entire leaves and leaflets of dicotyledons. The authors conclude that there is a marked correlation between leaf margin and environment in the distribution of dicotyledons. Entire margins predominate in lowland tropical regions; while non-entire margins predominate in mesophytic cold-temperate regions. In the tropics non-entire margins are favored by "moist uplands, equitable environments, and protected, comparatively cool habitats." In the cold temperates, entire margins are favored by "arid environments and other physiologically dry habitats." These correlations are exhibited more strikingly by trees and large shrubs than by herbs. If these conclusions are tenable, "the determination of the percentages of the entire and non-entire leaves in Cretaceous and Tertiary dicotyledonous floras affords a simple and rapid means of gauging the general climatic conditions." Attention is called to the danger of inferring that leaves are conservative or inconstant because in some cases they remain unaltered through long periods, and in other cases they vary greatly among closely related forms. A very definite relation between the evolution of climate and the evolution of plants is becoming increasingly evident.—J. M. C.

---

[9] Davis, B. M., A method of obtaining complete germination of seeds in *Oenothera*, and of recording the residue of sterile seedlike structures. Proc. Nat. Acad. Sci. **1**:360–363. 1915.

[10] Nohara, S., Genetical studies on *Oxalis*. Jour. Coll. Agric. Imp. Univ. Tokyo **6**:165–182. *pl. 1*. 1915.

[11] Bailey, I. W., and Sinnott, E. W., The climatic distribution of certain types of angiosperm leaves. Amer. Jour. Bot. **3**:24–39. 1916.

Embryo sac of Onagraceae.—The embryo sac of this family, the subject of a good many investigations, has been reported as persistently 4-nucleate, with an occasional more or less doubtful exception. TÄCKHOLM[12] has investigated the situation and confirms the constancy of this feature, stating that he never observed an embryo sac that was not 4-nucleate, nor did he find any transition stages to the ordinary 8-nucleate type. Previous statements in reference to vanishing antipodals, thus reducing the number of nuclei to 4, are thought to be accounted for by confusing them with the remnants of the 3 lower megaspores, the uppermost megaspore in this family developing the embryo sac. In fact, it seems that one or more of the 3 lower megaspores often persist attached to the embryo sac, and this sometimes results in a striking resemblance to 3 antipodals in a linear series. This union of persistent megaspores with the embryo sac constitutes what TÄCKHOLM calls a gametophytic entity, sometimes intervening walls disappearing and the persistent megaspore nuclei left free in the antipodal region of the sac. As to the possible nutritive function of these persistent and occasionally proliferating megaspore nuclei, there has been much discussion, but no certain evidence. In any event, this behavior of the Onagraceae seems to be unique, and its possible phylogenetic significance must be left at present to the imagination.—J. M. C.

---

[12] TÄCKHOLM, GUNNAR, Beobachtungen über die Samenentwicklung einiger Onagraceen. Svensk. Bot. Tidsk. **9**:294–361. *figs. 16.* 1915.